

Amendments to the Claims

Claim 1 (currently amended): Automatic test equipment for testing non-deterministic packet data from a device-under-test, the automatic test equipment including:

a memory for storing expected packet data;
a receiver for receiving the actual packet data from the device-under-test; and
a data validation circuit coupled to the receiver for validating the non-deterministic packet data based on the expected packet data from the memory, the data validation circuit comprising a first-in-first-out circuit having an input coupled to the receiver and a match circuit having a first input coupled to the first-in-first-out circuit and a second input coupled to the memory.

Claim 2 (currently amended): Automatic test equipment according to claim 1 wherein the non-deterministic packet data validation match circuit includes[[::]]
~~a first in first out circuit having an input coupled to the receiver and an output; and~~
~~a comparator having a first input coupled to the first in first out circuit and a second input coupled to the memory, the comparator operative to compare an output of the first-in-first-out circuit output to the expected packet data from the memory.~~

Claim 3 (currently amended): Automatic test equipment according to claim 2 and 1, further including:

~~a filter having an input coupled to the memory and an output coupled to the match circuit comparator second input, the filter configured to mask idle packet data or timing sequence data.~~

Claim 4 (currently amended): Automatic test equipment according to claim 1 wherein the memory expected packet data includes predetermined expected signatures representing valid

packet data combinations from the device-under-test, the ~~non-deterministic packet~~ data validation circuit including:

a signature generator for ~~creating~~ generating actual signatures based upon actual packet data combinations received from the receiver; and
a comparator for comparing the actual signatures to the predetermined expected signatures to identify valid packet data.

Claim 5 (currently amended): Automatic test equipment according to claim 4 and further including:

a capture memory coupled to the receiver for storing the actual packet data received by the receiver.

Claim 6 (original): Automatic test equipment according to claim 4 wherein the signature generator comprises a CRC arithmetic register.

Claim 7 (original): Automatic test equipment according to claim 6 wherein the CRC arithmetic register comprises a linear feedback shift register.

Claim 8 (currently amended): Automatic test equipment for testing non-deterministic packet data from a device-under-test, the automatic test equipment including:

means for storing expected packet data;
means for receiving ~~non-deterministic~~ actual packet data from the device-under-test; and
means for validating the non-deterministic packet data based on the expected packet data from the ~~vector memory~~ means for storing, the means for validating comprising a first-in-first-out circuit having an input coupled to the means for receiving and a match circuit having a first input coupled to the first-in-first-out circuit and a second input coupled to the means for storing,

Claim 9 (currently amended): Automatic test equipment according to claim 8 wherein the means for validating match circuit includes[:]

~~a first in first out circuit having an input coupled to the receiver and an output; and a comparator having a first input coupled to the first in first out circuit and a second input coupled to the means for storing expected packet data, the comparator operative to compare an output of the first-in-first-out circuit output to the expected packet data from the means for storing expected packet data.~~

Claim 10 (currently amended): Automatic test equipment according to claim 8 wherein the means for storing expected packet data includes means for storing predetermined expected signatures representing valid packet data combinations from the device-under-test, the means for validating including:

means for generating a signature based upon actual packet data combinations received from the receiver; and

means for comparing the actual signatures to the predetermined expected signatures to identify valid packet data.

Claim 11 (currently amended): Automatic test equipment according to claim 8 and further including:

means for capturing the actual packet data from the receiver.

Claim 12 (original): Automatic test equipment according to claim 10 wherein the means for generating a signature includes:

a CRC arithmetic register.

Claim 13 (original): Automatic test equipment according to claim 12 wherein the CRC arithmetic register comprises:

a linear feedback shift register.

Claim 14 (currently amended): A method for testing non-deterministic packet data using automatic test equipment having a memory for storing expected packet data, the method including the steps comprising:

receiving actual ~~non-deterministic~~ packet data from a device-under-test; and sequencing the actual packet data through a first-in-first out circuit;
comparing, in the order received, each actual packet data to the expected packet data in the memory; and

validating the non-deterministic packet data based on the ~~expected packet data from the memory comparing step.~~

Claim 15 (cancelled)

Claim 16 (currently amended): A method according to claim ~~15~~ 14 wherein the expected packet data includes idle data or timing sequence data, the method further includes the step comprising:

filtering the idle data or timing sequence data to generate filtered expected data, and wherein the comparing step includes comparing, in the order received, each actual packet data to the filtered expected packet data.

Claim 17 (currently amended): A method according to claim ~~11~~ 14 wherein the memory stores ~~predetermined valid~~ expected signatures representing valid packet data combinations from the device-under-test, and wherein the validating step includes the method further comprising:
generating an actual signature for each ~~received~~ actual data packet [[;]], wherein the comparing step includes comparing the generated actual signature to the ~~predetermined valid~~ expected signatures [[;]] and

the validating step includes determining whether the received actual data packet passed or failed based on the comparison of the actual and expected signatures.

Claim 18 (currently amended): A method according to claim 17 wherein the step of generating an actual signature includes:

calculating a checksum from the received actual packet data.

Claim 19 (currently amended): A method for validating non-deterministic packet data from a device-under-test using automatic test equipment, the automatic test equipment having a memory, the method including the steps comprising:

establishing a library of known passing/failing signatures in the memory, wherein the known signatures are passing signatures, failing signatures or both;

testing the device-under-test;

generating a signature of actual packet data captured during the testing step;

comparing the generated signature from the captured data to the library of known passing/failing signatures;

determining a pass/fail result for the device test if the compared signature matches [[a]] at least one known signature in the library;

evaluating the captured data to determine whether the device passed/failed if the compared signature does not match at least one known signature in the library;

generating a new signature for the evaluated captured data; and

adding the new signature to the library of known passing/failing signatures.